REMARKS

Claims 1-7, 9-22, and 24-30 are pending in the present application. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the Office Action of January 25, 2007, the following actions were taken:

(1) claims 1-3, 5-7, 9-18, 20-22, and 24-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,624,484 (hereinafter "Takahashi") in view of U.S. Patent No. 5,958,121 (hereinafter "Lin"); and

(2) claims 4 and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi and Lin, and further in view of U.S. Patent No. 6,328,413 (hereinafter "Rutland").

It is respectfully submitted that the presently pending claims be reconsidered and allowed.

Rejections Under 35 U.S.C. § 103

The Examiner has rejected claims 1-3, 5-7, 9-18, 20-22, and 24-30 under 35 U.S.C. § 103 over Takahashi in view of Lin, and claims 4 and 19 over Takahashi and Lin and further in view of Rutland. The Applicant respectfully submits that the presently pending claims are patentable over the cited references for the reasons set forth below, and that the rejection should be withdrawn.

Before discussing the obviousness rejections herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima facie* obviousness by showing the prior art reference, or references combined, teach or suggest all the claim limitations in the instant application. Further, the Examiner has to establish some motivation or suggestion to combine and/or modify the references, where the motivation must arise from the references themselves, or the knowledge generally available to one of ordinary skill in the art. And finally, the Examiner has to show a reasonable expectation of success in the prior art. The Applicant respectfully

asserts the Examiner has not satisfied the requirement for establishing a case of *prima facie* obviousness in any of the rejections.

The present invention

The present invention is directed towards a system and method for ink-jet imaging. In accordance with embodiments of the claimed invention, this system allows for reduced nozzle clogging due to cross-contamination. The claims set forth a fluid dispensing system specifically designed for ink-jet printing comprising an ink-jet ink with from 0.1 wt% to 6 wt% of an anionic dye colorant and from 0.05 wt % to 1.0 wt % of an anionic dispersant polymer. The claims also set forth a fixer composition with a cationic crashing agent that is reactive with a component of the ink-jet ink. The fluid dispensing system can be configured for overprinting or underprinting the fixer composition with respect to the ink-jet ink. Claims are also drawn towards a method for ink-jet imaging including jetting an ink-jet ink from printing nozzles that includes an anionic dye colorant and an anionic dispersant polymer, and jetting a fixer composition from printing nozzles.

The Takahashi reference

Takahashi discloses a liquid composition consisting of a cationic substance of polyallylamine and glycerol. As the Examiner pointed out, Takahashi also teaches an ink-jet ink with an anionic dye colorant. Additionally, the reference discloses the steps of overprinting and underprinting with respect to an ink. The Examiner further points out that Takahashi teaches an ink-jet ink including 0.1 wt % to 5 wt % of a dispersant. It is believed that this is not an accurate characterization of the prior art, in that the dispersant is discussed in the context of printing with pigments. See column 9, line 35.

Takashi, however, does not teach or suggest including 0.05 wt% to 1.0 wt% of an anionic dispersant polymer, nor does it teach the combination of anionic dye colorant in combination with anionic dispersant polymer, nor does it teach from 0.1 wt% to 6 wt% of anionic dye colorant present with an anionic dispersant polymer. To remedy at least the deficiency of 0.05 wt% to 1.0 wt% of an anionic dispersant polymer, the Examiner has included the reference Lin.

The Lin reference

Lin is directed to paper curl reduction process by applying an aqueous dye or pigment ink in an image-wise fashion to one side of a substrate, and applying a clear aqueous liquid to the opposite side of the substrate. Lin teaches that a variety of chemical additives can be included in the aqueous inks and clear aqueous liquids, including surfactants, wetting agents, polymeric chemical additives to enhance the viscosity of the ink, and in the case of pigments, dispersants.

Discussion

A *prima facie* case has not been presented by the combination of Takahashi and Lin. The combination of references does not teach or suggest each and every element. Specifically, the combination of Takahashi and Lin does not teach the combination of anionic dye colorant present in an ink with anionic dispersant polymer, nor does it teach the relative amounts of anionic dye colorant and anionic dispersant. Furthermore, neither reference clearly teaches anionic dispersant polymer.

The Lin reference uses dispersing agent in relation to pigment inks. Specifically, pigment inks can use dispersants that are anionic, cationic and nonionic. See col. 17, ln. 37-40. In fact, much discussion is given to using dispersants with pigments. See col. 17-18; specifically, col. 17, ln. 37-40; col. 18, ln. 21-23, 26-38, and 51-53. Although the Examiner has pointed to the area of the reference discussing optional polymeric chemical additives, it is unclear if any of the noted polymeric chemical additives (1) can function as dispersants, and (2) are anionic. The reference does not direct the use of polymeric additives as dispersants, nor does it note that the additives have value beyond enhancing the viscosity of the ink. See col. 18, ln. 58-62. The Examiner readily admits that Takahashi does not teach an anionic dispersant polymer. Lin does not teach an anionic dispersant polymer.

Further, the Examiner has not presented the element of the combination of anionic dye colorant with anionic dispersant polymer in a single ink of the present invention in either or both of the cited reference. In both Takahashi and Lin, the Examiner has successfully shown the use of a dispersant in an ink-jet ink. However, the Examiner has managed to point out a very common use of dispersants – using dispersants with pigmented ink. This is not only common, but often necessary of the pigments will settle out. This use is well known in the art. The Applicant's use of

anionic dispersant polymers in an ink-jet ink also containing an anionic dye is novel in the context of the presently claimed invention. Dyes are typically water soluble and thus, do not (in the prior art) require the use of dispersants (they are solubilized and so there is nothing to disperse). There is no mention, discussion, or teaching in either Lin or Takahashi regarding an ink with an anionic dye colorant and an anionic dispersant polymer.

As neither reference teaches the combination of anionic dye colorant with anionic dispersant polymer in an ink-jet ink, it follows that neither reference can be interpreted to teach or suggest the relative amounts of from 0.1 wt% to 6 wt% anionic dye colorant present with from 0.05 wt% to 1.0 wt% of an anionic dispersant polymer.

Therefore, the combination of Takahashi and Lin does not present a *prima facie* case of obviousness for lack of teaching each and every element. Specifically, the combination fails to teach or suggest the presence of both anionic dye colorant with anionic dispersant polymer in an ink, nor does it teach the relative amounts of anionic dye colorant and anionic dispersant. Furthermore, neither reference clearly teaches anionic dispersant polymer. As such, removal of the rejections based on the combination of Takahashi and Lin is respectfully requested.

Combination with Rutland

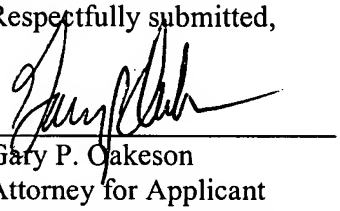
The Examiner cited Rutland, in combination with Takahashi and Lin, to remedy the deficiency in claims 4 and 19 of a teaching of ink-jet printing nozzles and fixer printing nozzles configured in a proximity such that, upon jetting, small amounts of fixer composition aerosol jetted from the fixer printing nozzles contact the ink-jet ink printing nozzles, thereby resulting in the ink-jet printing nozzles being susceptible to cross-contamination by the fixer composition. Rutland does not remedy the missing elements of the combination of Takahashi and Lin. Rutland does not teach of an ink-jet ink including an anionic dye colorant and from 0.05 wt % to 1.0 wt % of an anionic dispersant polymer. Therefore, the combination of Takahashi, Lin, and Rutland is missing a claim limitation. As such, removal of the rejections based on Rutland is respectfully requested.

In view of the foregoing, Applicant believes that claims 1-7, 9-22, and 24-30 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to telephone W. Bradley Haymond (Registration No. 35,186) at (541) 715-0159 so that such issues may be resolved as expeditiously as possible.

Please charge any additional fees except for Issue Fee or credit any overpayment to Deposit Account No. 08-2025.

Dated this 25th day of April, 2007.

Respectfully submitted,



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